

**NEW YORK/ NEW JERSEY EDUCATION AND RESEARCH
CENTER FOR OCCUPATIONAL SAFETY AND HEALTH
SUMMARY ANNUAL REPORT**

July 1, 2008 – June 30, 2009

NIOSH Training Grant

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SUBMITTED BY:

Jacqueline Moline, MD, MSc

CENTER DIRECTOR

Mount Sinai School of Medicine

New York, NY 10029

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UOSHERC, the Universities Occupational Safety and Health Education and Research Center (a/k/a NY/NJ ERC), is a consortium of five educational institutions (www.nynjerc.org) offering ten programs in occupational health and safety training, covering three of the four essential core areas for ERC's, namely Occupational Medicine, Industrial Hygiene and Occupational Safety/Ergonomics. Our constituent programs are:

- Industrial Hygiene and Hazardous Substance Academic Training (HSAT) at Hunter College School of Health Sciences (New York City, NY);
- Occupational Medicine at Mount Sinai School of Medicine (New York City, NY);
- Occupational Medicine at the Universities of Medicine and Dentistry of New Jersey (UMDNJ)/Robert Wood Johnson Medical School (Piscataway, NJ);
- Occupational Safety & Health Engineering at New Jersey Institute of Technology (Newark, NJ);
- Occupational Ergonomics and Biomechanics at New York University (NYC, NY).
- Continuing Education and Outreach and Hazardous Substance Training (HST) at UMDNJ/Robert Wood Johnson Medical School (Piscataway, NJ); and the
- Pilot Project Research Training Program and NORA Research Support Program at Mount Sinai School of Medicine (New York City, NY).

Jacqueline Moline, MD, MSc is Director of this ERC. UOSHERC is administered by a core staff at Mount Sinai School of Medicine in conjunction with the ERC Management Committee, consisting of all the program directors of this ERC.

Students and Residents Trained: During the 2008-09 grant year, UOSHERC trained a total of 60 students and residents in its academic-degree programs, of whom 24 were full-time students and 36 were part-time students. 13 of the incoming students and residents, at least one in each core program, were underrepresented minority trainees. Fourteen students and residents graduated: 8 in industrial hygiene, 3 in occupational medicine, 2 in safety engineering and 1 (MS only) in ergonomics. Of the 14 graduates, 9 (64 percent) received NIOSH funding. Our ERC Continuing Education program provided short-term training to 3,969 persons. Over 80 percent of these attendees (3,246) were from private industry, 11 percent (425) were from academic institutions, and 8 percent (298) were from city, state or local government agencies.

Highlights: The highlight of this year was our fourth annual ERC Interdisciplinary Northeast Occupational Safety and Health Tour. During the week of June 7 - 11, 2009, 25 ERC students and 10 faculty members traveled across the Northeastern U.S to visit industrial sites of current or historical health and safety interest, of whom two were Hunter nursing students and 5 were faculty and staff from the Univ. of Cincinnati ERC. This year we visited industries engaged in beryllium and automobile manufacturing, visited a former coal mine, toured the Love Canal clean-up site and the NIOSH Personal Protective Technology Lab in Pittsburgh. In addition, UOSHERC held its 30th annual scientific conference on April 3, 2009 on "From Research to Practice in Occupational Safety and Health". The keynote speaker was Dr. Christine Branche, Acting Director of NIOSH. The annual ERC student research day was held on May 13, 2009 at NJIT. The ERC continued to offer two interdisciplinary courses during the academic year: an OSH seminar in the Fall and a plant visits course in the Spring. Students and faculty from all ERC programs actively participated in all the above.

Industrial Hygiene and HSAT (Hunter): The Hunter Environmental and Occupational Health Sciences (EOHS) Program has 6 full-time faculty members, including Dr. Kenneth Olden, former Director of NIEHS and Founding Dean of Hunter's new School of Public Health. The MS-EOHS track (includes both IH and HSAT programs) was visited by ABET in 2007 and re-accredited for 6 years. In 2008-09, the MS-EOHS Program had 31 students, of whom 8 graduated (6 in IH and 2 in HSAT). Twenty-two of the 31 students (71 percent) were from underrepresented minority backgrounds. EOHS faculty continued their active research this year and attended numerous professional conferences. Hunter/CUNY has officially applied to CEPH for accreditation as a School of Public Health. The doctoral program in EOHS admitted its first class (seven students) in September 2009. This year Dr. Caravanos, ERC IH Director, again led the 4th Annual Historical Perspectives Summer OSH Tour with Mitchel Rosen, CE/O Director. The HSAT Program represents a concentration within the MS-EOHS program. In 2008-09, six MS-EOHS students were enrolled in this concentration, of whom two graduated. All MS-EOHS graduates in the past year but one have found professional OSH employment.

Occupational Medicine (Mount Sinai and RWJ/UMDNJ): The ERC has two occupational medicine residency programs: Mount Sinai School of Medicine (MSSM) and Robert Wood Johnson Medical School (RWJ/UMDNJ). The MSSM Program received full ACGME re-accreditation (five years) in October 2008. In 2008-09, the MSSM Program had three OM residents and RWJ/UMDNJ four. All three MSSM residents were from underrepresented minorities, and one of the four RWJ residents. The MSSM program graduated one resident with an MPH degree in 2008-09, and the RWJ program two. All three graduates are professionally employed in occupational medicine. In 2008-09 RWJ/UMDNJ core faculty published 29 peer-reviewed OSH articles, and MSSM faculty 17 articles. Research highlights this year included an air pollution study in Beijing by Dr. Kipen (UMDNJ) before, during and after the Olympics, and a major hexavalent chromium exposure study by Dr. Gochfeld. Dr. Moline of MSSM continues as Director of the WTC Worker and Volunteer Medical Monitoring and Treatment Program. Dr. Udasin has increased OM program involvement at RWJ/UMDNJ and this has also been accomplished at MSSM. MSSM has added two new field placements in 2008-09, giving residents greater experience in day-to-day OEM private practice.

Occupational Safety and Health Engineering (NJIT): Dr. Sengupta and Dr. Olsen continue as core faculty members of the OSHE program. The educational program now resides within the newly created Department of Mechanical and Industrial Engineering (MIE), requiring 36 credit hours of coursework for the degree, including a mandatory research-oriented thesis for NIOSH trainees. Sixteen students studied in the program in 2008-09, of whom two graduated. Both graduates are now working in the health and safety field, one with Verizon Communications and the other with the Conti Group consultants. Twelve of the 16 students in the program this year (75 percent) were from underrepresented minority backgrounds. One peer-reviewed submission and one conference presentation this year were based on student research in the OSHE program. As in past years, a major focus of this program for the future will be improvement of its research output. Trainees are advised to begin work on their MS theses during their second semester of study.

Occupational Ergonomics and Biomechanics (ERBI) (NYU): The Program had 6 Masters students in 2008-09, of whom one graduated, as well as 7 doctoral students (the latter are not supported by NIOSH). Five of the 6 Masters students were from underrepresented minority backgrounds, a significant advance over past minority enrollments and the result of targeted efforts by program faculty and staff. During 2008-09 ERBI faculty wrote two book chapters and published 4 peer-reviewed articles, two of which resulted from NORA research support funds. Also faculty and students made eight conference presentations, seven of which resulted from ERC pilot project research grants. In the future, ERBI will continue the objectives initiated in 2007-2008 to promote and improve ergonomics

in health care, linking both patient safety and employee safety. A multidisciplinary group of interested ERBI faculty continues to explore further ERC collaboration projects that emphasize translation of current research findings into practical applications (r2p).

Continuing Education & Outreach(CE/O)/HST (UMDNJ): NY/NJ ERC meets the continuing education and outreach training needs of the occupational health and safety practitioners of New York, New Jersey and Puerto Rico. The CE/O Program, under Mitchel Rosen, MS, offered a total of 247 courses to 3,969 persons in 2008-09. Over 80 percent of the attendees were from private industry, 11 percent from academic institutions, and 8 percent from city, state or local government. Fully 272 of those trained were physicians, about 200 were industrial hygienists and 168 were nurses. Three-quarters of the trainees were safety professionals. A partnership with the NY chapter of the American College of Occupational and Environmental Medicine has increased outreach to OM physicians throughout NY state. The HST Program works extensively with public agencies in New Jersey and New York to provide hazardous materials training. From July 1, 2008 to June 30, 2009, 86 HST courses were offered to 1,499 students. Through the HST program eighteen 40-hour and thirty-seven 8-hr Annual Refresher scholarships were awarded to public sector employees.

Outreach efforts have involved physicians from the occupational medicine programs, who have provided numerous interviews (TV, newspaper and radio) and Podcast lectures, based on their continued medical monitoring of responders from the WTC recovery site. Also the UMDNJ-School of Public Health has developed podcasts on OSH issues and hosted video teleconferencing for the ERC's interdisciplinary Site Visits course, both assisted by NORA Research Support Program funding. Another cornerstone of the NORA Research Support Program is the one-week Historical Perspectives OSH Tour.

Pilot Project Research Training (PPRT) (Mount Sinai): Eight applications were received in the PPRT program this year; six were funded for work bridging multiple sectors, including health care, transportation, service and construction. Cross sector work is addressed in several ergonomic projects. Two new investigators were funded – an NYU Nursing faculty member and a Mt. Sinai faculty member in Otolaryngology – fulfilling one of our goals of fostering collaborative research in occupational medicine by individuals in other disciplines. As always, prior awardees present their findings at our annual scientific conference, providing all ERC trainees and conference attendees with the ability to see new work that is done within occupational health and safety and our ERC.

NORA Research Support (NRS) Program (Mount Sinai): A variety of courses and research projects provide research training for graduate students through the NRS Program. This year UMDNJ residents conducted two NRS-supported studies: one on the health effects of diesel exhaust and the other a study of lead exposure among construction workers. NYU graduate students and faculty continued their research on shoulder and scapula kinematics, comparing hospital patients, many of whose injuries were caused on the job, and healthy subjects, seeking to speed recovery and return to work. NJIT graduate students and faculty conducted research on muscle fatigue and musculoskeletal disorders due to computer use of personal digital assistants, and on ergonomic problems of die set-up operators of plastic extrusion machines. Hunter College students assessed lead exposure at a battery reprocessing facility and designed a remediation plan for the surrounding community. Mount Sinai researchers and ERC trainees conducted a survey of health and working conditions among New York City sanitation workers, and are analyzing health survey data from New York City restaurant and retired transit workers. Through NRS funding, UMDNJ hosted video teleconferences for the interdisciplinary ERC Site Visits course, and streamed the proceedings of this year's annual ERC Scientific Meeting. To enhance its outreach efforts, the ERC has developed a Facebook group to provide information about the ERC and its activities.